

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A security-sensitive semiconductor product, particularly a smart-card chip, comprising electrically active structures envisaged by the chip design in the form of circuit functions in and on a wafer and connected by electrical contacts, and an additional filling structure comprising electrically conductive parts, which are insulated from one another and wherein the parts of the filling structures that are generated are combined with the contacts so that additional circuit functions are generated in addition to the electrically active circuit structures that are produced for the circuit;

wherein a majority of the fill structures generated are incorporated along a signal path so that active, electrically connected parts of the fill structures are situated next to dummy fill structures that are insulated from the electrically active structures and the active electrically connected parts of the fill structures.

2. (previously presented) A security-sensitive semiconductor product as claimed in claim 1 wherein the parts of the filling structures that are generated are composed of metal, of polycrystalline silicon, of diffusion regions, or of other electrically conductive materials of the semiconductor product.

3. (previously presented) A security-sensitive semiconductor product as claimed in claim 2, wherein the contacts are also set by a routing program belonging to a design program for chip design.

4. (previously presented) A security-sensitive semiconductor product as claimed in claim 1, wherein the fill structures composed of metal are connected together electrically, so that at least one closed signal path is formed between two or more nodes of the active circuitry of the circuit.
5. (previously presented) A security-sensitive semiconductor product as claimed in claim 1, wherein the contacts are set to provide arbitrary interlinkings, both horizontal and vertical, of the parts of the fill structure are produced.
6. (previously presented) A security-sensitive semiconductor product as claimed in claim 5, wherein the contacts are set so that after each part of the fill structure the wiring level is changed and the horizontal direction is changed within the level.
7. (canceled)
8. (previously presented) A security-sensitive semiconductor product as claimed in claim 1, wherein the signal path is connected to further suitable integrated electronic circuit components including at least one of transistors, diodes, resistors and capacitors.
9. (previously presented) A security-sensitive semiconductor product as claimed in claim 8, wherein the signal path that is composed of parts of the fill structures that are interlinked with one another comprises a supply track by connecting electronic circuit components to the supply voltage via the parts of the fill structures that are interlinked with one another.
10. (currently amended) A security-sensitive semiconductor product as claimed in claim 8, particularly a smart-card chip, comprising electrically active structures envisaged by the chip design in the form of circuit functions in and on a wafer and connected by electrical contacts, and an additional filling structure comprising electrically conductive parts, which are insulated from one another and wherein the parts of the filling structures that are generated are combined with the contacts so that additional circuit functions are

generated in addition to the electrically active circuit structures that are produced for the circuit;

wherein a majority of the fill structures generated are incorporated along a signal path so that active, electrically connected parts of the fill structures are situated next to dummy fill structures that are insulated from the electrically active structures and the active electrically connected parts of the fill structures;

wherein the signal path is connected to further suitable integrated electronic circuit components including at least one of transistors, diodes, resistors and capacitors; and

wherein the signal path that is composed of parts of the fill structures that are interlinked with one another is used as a supply-to-ground path by causing the parts of the fill structures that are interlinked with one another to form an electrically conductive current path between the supply voltage and the ground potential of the electronic circuitry.

11. (previously presented) A security-sensitive semiconductor product as claimed in claim 9, wherein a pick-off fed to electronic analyzer circuits, takes place between two contacts at a time on the signal path.

12. (previously presented) A security-sensitive semiconductor product as claimed in claim 10, wherein the signal path that is composed of parts of the fill structures that are interlinked with one another is used as a resistive signal path, in which case the parts of the fill structures that are interlinked with one another are connected between the supply voltage and the ground potential of the electronic circuitry and semiconductor resistors are inserted in the resistive signal path at random intervals by means of contacts that are set.

13. (previously presented) A security sensitive semiconductor product as claimed in claim 11, wherein the pick-off takes place between two resistors at a time.

14. (previously presented) A security-sensitive semiconductor product as claimed in claim 12, comprising security means for impeding optical tracing of the electronic circuitry of security-sensitive semiconductor products by varying sizes and/or positions of the interlinked parts of the fill structures.